

composition of, or a method involving, a composition that comprises a fire retardant composition, a suspending agent, a phosphonic acid or phosphonate and a corrosion inhibiting system. As discussed in the specification, the compositions of the subject claims are of the type employed for aerial application. EPA '067 discloses a composition that is also a fire retardant of the type for aerial application. However, as conceded in the Office Action, the compositions disclosed in EPA '067 do not contain a phosphonic acid or phosphonate. EPA '067 neither teaches nor suggests either phosphonates or the advantages of using phosphonates in certain fire retardant compositions as corrosion inhibitors. On the contrary, the only corrosion inhibitor mentioned in this patent is sodium ferrocyanide.

The Kasten patent does not make up for the deficiencies of EPA '067. The Kasten patent is directed not to fire retardants of the type applied aerially such as to quench forest or wildland fires as in EPA '067 or the compositions of the subject claims, but to intumescent fire retardant coatings; that is, compositions unrelated to the retardant compositions of the type employed for aerial applications. The aerial type of fire retardant composition addressed in EPA '067 (and the subject claims) is a highly aqueous composition dropped on vegetation to stop the spread of wildland fires. By contrast, an intumescent paint of the type described by Kasten is applied to a flammable surface prophylactically and dries to provide a decorative and protective coating. When the intumescent coating is subsequently heated, as in a fire, the water insoluble ammonium polyphosphate described therein decomposes and the resulting phosphoric acid reacts with the carbonific (carbon source in the coating) to form a non-flammable, multicellular, insulative carbon barrier between the flammable fuel and the fire. The function of the phosphonate chelating agent was, of course, completed once the viscous paint is applied to the surface and allowed to dry. Accordingly, the retardant compositions of

Kasten are very different from and operate in a very different way than do the aerially applied compositions of EPA '067 and the subject claims.

Thus, Kasten describes the addition of a chelating agent to an intumescent coating (paint) containing a water-insoluble ammonium polyphosphate, a carbonific (a source of carbon) and a film-forming polymer which binds the composition to the surface on which it is applied. The water-insoluble ammonium polyphosphate included in Kasten's intumescent paint is very different from the water-soluble liquid ammonium polyphosphate solution employed in the composition of EPA '067. Kasten's ammonium polyphosphate is prepared by thermally condensing ammonium orthophosphates in the presence of urea. The resultant long chain ammonium polyphosphate has the generic formula of $H_{(n-m)}(NH_4)_mP_nO_{3n+1}$ – see Column 4 line 44 – where n is an integer with an average greater than 10.

The chelating agents of Kasten are described as compounds capable of in-activating metal ions that would otherwise detrimentally impact the viscosity stability of the paint prior during storage prior to application. The chelating agents effective in such a paint composition are identified as either an aminocarboxylic acids or an aminophosphonic acid. Ethylenediaminetetraacetic acid (EDTA), an aminocarboxylic acid, is cited as the most preferred chelating agent, column 3, line 18.

The subject Office Action concludes that it would have been obvious to incorporate the chelating agents of Kasten into the composition of EPA '067 because EPA '067 "teaches that its ammonium polyphosphate base fire retardant requires a stabilizer and Kasten teaches that chelating agents function as viscosity stabilizers in ammonium polyphosphate fire retardant compositions." However, the combination is not that simple.

First, because of the very different natures of the compositions, the teachings with respect to the Kasten paints are inapplicable to the aerially applied compositions of EPA '067. Although the Office Action bases its conclusion of the similarity of the compositions of the Kasten composition to the EPA '067 composition on the fact that both include ammonium polyphosphates, the compositions are very different, as exemplified by the fact that the water-insoluble ammonium polyphosphates of Kasten are very different from the water-soluble ammonium phosphates of EPA '067.

Second, as recognized by the Office Action, the EPA '067 compositions already contain stabilizers. Therefore, there should be no need to add chelating agents as stabilizers. The Office Action has not pointed out any motivation for adding additional stabilizers to the EPA '067 compositions or substituting the Kasten chelating agents for the stabilizers in the EPA '067 composition, let alone that such chelating agents would so work in the EPA '067 composition.

Third, the phosphonic acids/phosphonates of the subject claims have been added not for viscosity stabilization; rather, as explained in the subject specification, the phosphonic acids/phosphonates, when added to the aerially applied type of fire retardant compositions, have been found to improve corrosion inhibition. This surprising advantage is nowhere taught or suggested in the art of record.

Accordingly, it is submitted that claims 1-57 and 78 define patentably over EPA '067 and the Kasten patent, whether considered individually or in combination.

Favorable reconsideration is also respectfully requested of the rejection of claims 58-77 as being obvious over EPA '067 in view of the Kasten patent, further in view of Crouch U.S. patent 6,019,176 (the "Crouch patent"). Claims 58-77 all depend directly or indirectly from

claim 1 and so are submitted to distinguish over EPA '067 and the Kasten patent for at least the reasons discussed above with respect to claims 1-57 and 78. The Crouch patent nowhere makes up for those deficiencies. Accordingly, it is submitted that claims 58-77 define patentably over EPA '067, the Kasten patent and the Crouch patent, whether considered individually or in combination.

Favorable reconsideration also is respectfully requested of the provisional obviousness-type double patenting rejection. The present claims all call for a phosphonic acid or phosphonate. Such is nowhere taught or suggested in the cited application. Nor, as discussed with respect to the Kasten patent, is there any other reference that has been established that can make up for this deficiency. The Office Action alleges that the subject claims anticipate those of the cited application. This, however, is not the test of a double patenting rejection, just as it is not the test for an anticipation or obviousness rejection. The subject claims would also anticipate, if prior, any reference to "a composition," but the fact that there are references to "compositions" that date back hundreds of years does not render the subject claims unpatentable. The question is whether the subject claims are ANTICIPATED BY the claims of the cited application, not the other way around. As pointed out above, the subject claims are not anticipated by or obvious over the claims of the cited application. Accordingly, it is submitted that the provisional double patenting rejection should be withdrawn.

Conclusion

In view of the foregoing, favorable reconsideration and early allowance of claims 1-78
are earnestly solicited.

Respectfully submitted,


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